

Policy for Energy Security

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Ontario's energy future: facing facts for the eighties

Security of crude oil supply is Canada's number one energy problem today.

Canada cannot presently produce enough crude oil to meet its needs from domestic resources, at a time when foreign crude oil supplies are increasingly expensive and their continued availability cannot be guaranteed.

Canada's supplies of natural gas, coal and electricity are secure for the foreseeable future.

Today, Canada imports close to 20 per cent of its crude oil supplies. By 1990, unless vigorous steps are taken, it is projected that Canada will need to import about 40 per cent of its requirements.

Given its dependence on foreign crude oil and the prospect that it could be cut off from world supplies for political and other reasons, Canada's oil supply is increasingly vulnerable.

Decisive and early action is required if Canada is to achieve self-sufficiency in crude oil. Such action must be based on integrated economic and industrial initiatives by the private sector, individual citizens and all levels of government.

Ontario's response to the crude oil deficit

The Government of Ontario's response to the crude oil deficit includes:

- a framework for crude oil self-sufficiency;
- a national plan for crude oil self-sufficiency by 1995;
- natural gas supply and pricing;
- consumer and job protection: adjustments to demands by others for higher oil prices;
- the need for a national petroleum company;
- Ontario's ability to meet more of its own energy needs;
- Ontario's ability to use less petroleum;
- measures to prevent wide differences in provincial revenues.

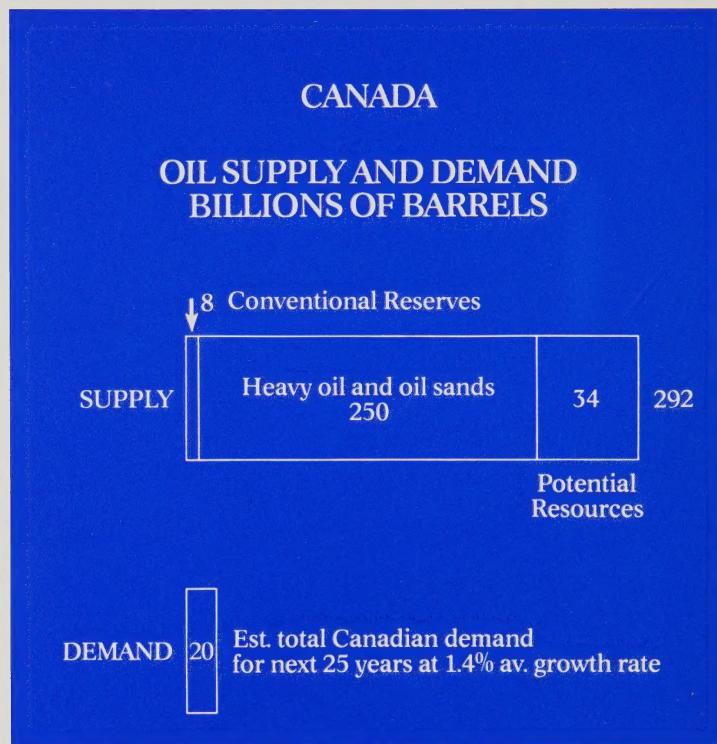
The framework for crude oil self-sufficiency by 1995

Three ways to achieve self-sufficiency in crude oil are:

- to increase supply, mainly through oil sands and heavy oil production, enhanced recovery, frontier and offshore resources;
- to reduce oil requirements by substitution of other fuels; for example, natural gas, electricity, coal, energy from waste materials and renewables; and
- to reduce crude oil consumption through conservation.

A National Plan for crude oil self-sufficiency by 1995

Canada has significant crude oil reserves. See chart. Developing those reserves, however, will take time, the cooperation of the Federal and Provincial Governments, the private sector, and a lot of money.



Source: "Oil and Natural Gas Resources of Canada"
Energy Mines and Resources, Canada

Ontario believes, and has long advocated, that Canada can become self-sufficient in crude oil no later than by 1995.

Ontario opposes world price as a benchmark for pricing Canadian crude oil because this is not necessary to achieve self-sufficiency.

Ontario's proposal for a National Plan for crude oil self-sufficiency

The National Plan should include:

- a national commitment by the Government of Canada, the producing and consuming provinces, and the petroleum industry to a specific amount and pace of investment in heavy oil and oil sands plants that will contribute to crude oil self-sufficiency by 1995;
- a national commitment that world price not be used as the benchmark for pricing Canadian crude oil;
- an agreement that the Toronto refinery gate crude oil price should always be below the average U.S. crude oil price at Chicago;
- a mechanism to finance the achievement of crude oil self-sufficiency;
- a commitment to construct seven additional oil sands plants about the size of Syncrude to be in operation by 1995 or an equivalent combination of new oil supply and conservation. The total estimated cost of seven oil sands plants in 1979 dollars would be \$35 billion;
- an agreement that the price for oil already discovered—'old oil'—should be lower than the price paid for 'new' domestic crude oil (both new conventional and synthetic oil);
- the establishment of a single national price for crude oil resulting from a blending of old, imported and new crude oil prices and this price should then be adjusted for transportation costs;
- an agreement that the price level established for old and new oil should be periodically reviewed by the governments of producing and consuming provinces, the Federal Government and the petroleum industry;
- an agreement that synthetic crude oil and new conventional crude oil should have access to higher prices up to a level appropriate to finance Canadian crude oil self-sufficiency;
- a commitment from the producing provinces that they will permit the required level of industrial development activity within their borders required to achieve oil self-sufficiency;

- a national commitment from private petroleum companies to invest in expanded supplies of domestic crude oil in accordance with the national plan for crude oil self-sufficiency, and that the division of revenues between government and the private sector be consistent with the accomplishment of that purpose;
- an agreement that petroleum companies should not receive more revenue than is needed to achieve self-sufficiency, but conversely, the private sector should receive enough revenue in order to do the job;
- the dedication of at least part of the 'export price differential' from any new exports of natural gas to develop Canadian crude oil self-sufficiency;
- a national commitment that there shall be no regional or provincial discriminatory practices towards Canadian suppliers of goods and services to the petroleum industry, located outside of the producing provinces;
- a national commitment to develop the capacity to transport Canadian crude oil to all parts of Canada:
 - in accordance with the national goal of crude oil self-sufficiency,
 - in order to provide emergency supplies prior to Canada achieving crude oil self-sufficiency.

Natural gas: a policy on price and supply

Realistically, crude oil policy cannot and should not be decided in isolation from natural gas supply and pricing policy. Accordingly, Canada's natural gas pricing and supply policy should include the following elements:

- the price of natural gas should not be tied to the price of crude oil; opportunities should be sought to lower the price of natural gas to consumers and encourage them to convert to natural gas;
- there should continue to be a single Alberta border price for natural gas adjusted for transportation;
- Canadian consumers should have their long-term (25 years) requirements of natural gas supply protected by means of an appropriate formula;
- Canada's natural gas supply forecast should not include frontier natural gas until that gas becomes available for the domestic market and should not be used to justify exports of natural gas from Western Canada;
- there should be greatly increased exploration and development in the Arctic and other frontier areas in order to prove the additional reserves which would justify the construction of frontier natural gas transportation facilities in time to meet Canada's future natural gas needs;
- natural gas exports to the United States under existing contracts should continue to be honoured;
- acceptance of the three tests established by the National Energy Board (NEB) (the current reserves test, the current deliverability test and the future deliverability test) for determining the surplus of natural gas available for export;
- additional natural gas exports to the United States should only be considered when Canada's future energy needs have been assured;
- compensation for the consumer should exports of any surplus natural gas from lower-cost conventional reserves be authorized when that means future domestic requirements will have to be met from higher-cost frontier reserves.

Consumer and job protection: adjustments to higher oil prices

Canadian experience with crude oil price increases since 1973 demonstrates the need for:

- a coherent policy of assistance to key Canadian industries both to adapt to oil cost increases as well as to take advantage of new energy related opportunities;
- an effective petrodollar reinvestment policy responsive to the large amount of money paid by consumers as a result of oil and gas price increases;
- an effective anti-inflation strategy;
- employment strategies financed out of the new domestic revenue flows generated by oil and gas price increases; and
- government expenditure restraint and a stable monetary growth. (These are essential in order to create permanent jobs in the private sector);
- measures to cushion the impact on low income groups, particularly those who have no alternative to home heating oil.

To maintain employment and reduce inflation in 1980-81, special short-term economic stabilization measures should be considered, financed by petrodollar revenues, including:

- indirect tax cuts (retail sales or manufacturing sales taxes) to stimulate consumer spending and reduce inflation;
- special tax cuts to low income groups to ease the burden of higher prices to those groups.

A National Petroleum Company: a basic need

Achieving Canadian crude oil self-sufficiency will be an enormous job requiring the combined commitment of the private and public sectors.

Canada's crude oil supply management is now primarily the responsibility of the privately owned petroleum industry. That responsibility should continue to rest largely with the private sector.

PetroCanada supplements the job being done by the private sector and takes risks where the private sector is reluctant.

PetroCanada provides Canadians with a better insight into the complexity of finding and developing new oil and gas reserves.

PetroCanada can and should, along with the private petroleum industry, play a leadership role in achieving crude oil self-sufficiency for Canada by 1995.

Ontario urges the Federal Government to retain essential functions of PetroCanada within a national petroleum company.

Ontario's energy security: a provincial policy

Ontario's crude oil needs can be reduced somewhat by producing more of other kinds of energy from its own resources. With limited energy resources, Ontario currently produces 22.6 per cent of its energy from sources within the Province.

Nevertheless, Ontario is committed to a major effort to increase (by 55 per cent over the next 15 years) the Province's capacity for energy self-sufficiency as a means of contributing to a reduction in its crude oil requirements. Accordingly:

- by 1995, Ontario will supply at a minimum 35 per cent of its energy from sources within the Province;
- by 1995, at least 15 per cent of Ontario's energy will be from renewable and recoverable resources;
- to achieve its 35 per cent target, a public and private investment of some \$30 billion (in 1979 dollars) will be needed over 15 years—of which more than half will be needed for renewable energy alone. This investment could come from a variety of sources, including the private sector, individual property owners, Ontario Hydro, municipalities and the Ontario Government. A key Ontario Government role will be in 'seed' funding and pilot project investment, through a variety of means;
- the Ministry of Energy will establish a renewable energy development organization, in cooperation with the private sector and Ontario Hydro;
- Ontario will seek participation from the private sector, particularly the petroleum industry, and Ontario Hydro in financing the capital and operating expenses of the renewable energy development organization;
- the Ministry of Energy, assisted by the Ministry of Industry and Tourism and by the Ministry of Treasury and Economics, will develop the financial and other conditions to foster a solar energy equipment industry as well as other renewable energy industries in Ontario;

- the Ministry of Energy will expedite the establishment of a viable Energy from Waste recovery industry based on:
 - municipal solid waste,
 - forest waste,
 - agricultural waste,
 - industrial waste;
- Ontario Hydro will be encouraged to accelerate its own program, in cooperation with the Ministry of Energy, to increase Ontario's capacity for energy self-sufficiency with particular reference to energy efficiency, hydraulic power, use of lignite, solar energy, cogeneration, by-product power and conservation;
- Ontario is accelerating its "Future Energy Sources Audit" to determine the size of Ontario's water, coal, peat, forest and forest waste resources and their potential for contributing to Ontario's future energy supply;
- Ontario reaffirms its commitment to the safe and careful use of nuclear power to ensure a secure supply of electrical energy.

Ontario's indigenous energy supply—1978-1995

The chart on page 13 shows that this province produced 22.6 per cent of its primary energy needs in 1978, 12.7 per cent of which was from renewable energy (water). In other words, Ontario currently purchases from other jurisdictions almost 80 per cent of its energy needs.

This province has little conventional energy—crude oil, natural gas, or coal. However, it does have uranium which, when converted into electricity, produced almost 10 per cent of Ontario's primary energy in 1978.

Within Ontario Hydro's electrical system an additional 2000 MW of hydraulic power will need to be added over the next 15 years.

The goal to increase, over the next 15 years, Ontario's capacity for energy self-sufficiency by 55 per cent means a significant acceleration in investment in renewable and recoverable energy, resulting in these energy sources contributing an estimated 43 per cent of Ontario's energy production by 1995.

In total, the goal is to increase Ontario's energy self-sufficiency from 22 per cent to 35 per cent by 1995.

Contribution to Ontario's energy needs from indigenous energy sources—1978-1995

Goal: To increase Ontario's energy self-sufficiency from 22 per cent to 35 per cent by 1995.

Primary Energy Requirements¹

Ontario	1978 %	1995 ² %
Conventional		
1. crude oil	0.1	*
2. natural gas	0.2	*
3. coal/peat	0.0	1
4. uranium	9.6	19 ³
Renewable		
1. water	12.7	10
2. energy from waste		
MSW	*	
forest	*	
industrial by-product heat	*	
synthetic liquid fuels from agricultural waste	0.0	
3. solar	0.0	5**
4. wind	0.0	
5. wood		
direct burning	*	
conversion to liquid fuel/gas	0.0	
6. fusion	0.0	0
7. hydrogen	0.0	0
Percentage of Ontario's primary energy requirements	22.6	35

¹Ontario provides 22.6% of requirements after adjusting for exports

²Goal

³Based on existing construction commitments

*minor contribution

**minimum goal

What is the cost?

To increase Ontario's capability to be more energy self-sufficient by 1995 will likely involve investing close to \$30 billion over the next 15 years in such areas as:

	Estimate \$ Billion
1. Renewable Energy	16.0
investment in solar equipment	
energy from municipal waste	
energy from forest waste	
energy from industrial waste	
synthetic liquid fuels	
2,000 MW of additional hydraulic generation	
2. Nuclear power program (present program; no new commitments)	12.5 (final project expenditure in current dollars)
3. Conventional energy	1.0
1,000 MW mine mouth generating station at Onakawana	
	\$29.5 (1979)

These investments could be made by individuals, industries, Ontario Hydro, municipalities, the Federal Government and the Government of Ontario.

Increasing Ontario's capacity for energy self-sufficiency also means greater reliance on electricity as this is the energy form most easily produced from Ontario's own energy sources: conventional, renewable and recoverable.

Conservation and reduced energy growth

Prior to 1973, the demand in Ontario for energy—petroleum products, natural gas, coal and electricity—grew by more than 5 per cent per year.

Today, Ontario's total energy demand is growing at a more modest 2.5 per cent per year. While programs to conserve all forms of energy will continue, special emphasis is being given to conserving petroleum products. Ontario consumers both at home and at work have reduced their rate of growth in demand for energy by half since 1973.

Since 1973, energy conservation programs have been initiated in the following areas:

- residential—private homes
- commercial—office buildings, stores,
- industrial—energy bus
- transportation—transportation energy management program
- urban development—urban design, building codes, planning research and development.

Targets have been set to reduce the growth rate for all forms of energy to no more than 2 per cent and to achieve zero per capita growth in the demand for petroleum by 1985 without sacrificing economic growth.

“Zero Crude Growth” by 1985

An effective crude oil conservation strategy must address the petroleum requirements of all sectors. The transportation sector is particularly important because of the large amount of petroleum products consumed and also because most vehicles cannot readily use other types of energy. Key factors in transportation are:

- about 50 per cent of petroleum consumption occurs in the transportation sector with the major portion (35 per cent) by private automobile;
- there is not enough practical technology at present to enable transportation vehicles to use other types of fuels on a wide scale basis;
- the private car remains the dominant and much preferred method of personal transportation. In many rural and northern areas of the province there is no other option;
- the vulnerability of the transportation sector, as evidenced by the recent energy problems in the United States and the lineups at gasoline stations and the nationwide truck strike arising from the cost and availability of diesel fuel;
- the trend to smaller motor vehicles represents one major area of success in U.S. policy although the change has not been occurring at a sufficiently rapid pace. Smaller vehicles could reduce Canadian consumption of petroleum in 1985 by the equivalent of one oil sands plant (worth about \$5 billion); and
- the potential for successful conservation initiatives in the transportation sector is great (e.g., the shift to public transit, a shift to rail from automobile and air in intercity transportation, vehicle maintenance, driving within the speed limits, and the transition to newer and hence more fuel-efficient vehicles).

Initiatives to achieve "Zero Crude Growth"

Specific initiatives could include:

- further improvements to public transit (since 1973 almost \$900 million has been invested by the Province in capital and operations in public transit systems);
- promotion of public transit;
- improved insulation in residential, commercial and industrial buildings;
- improved furnace efficiency and waste heat recovery;
- conversion of buildings and industry where appropriate from oil heat to natural gas or other fuels such as solid waste;
- improved truck transportation efficiencies;
- greater respect for speed limits;
- improved traffic flow patterns in urban areas;
- promotion of a shift to rail from automobile and air intercity transportation;
- promotion of district heating;
- an expanded role for electricity;
- increased emphasis on van and car pooling;
- higher priority to changes to urban design and transportation systems which affect energy consumption;
- improved urban amenities to reduce the desire to travel;
- investment of petrodollars in energy conservation in order to reduce demand for crude oil.

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